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ABSTRACT

Unintended pregnancies occur among young people who are sexually active and who do not take sufficient precautions to prevent pregnancy. Two major factors identified as contributing to unintended pregnancy are the lack of knowledge and skill in family planning and inconsistency in use of contraceptives. A pretest-posttest experiment was conducted to determine whether nurse-client contracting was useful in counseling single, sexually active youth regarding prevention of pregnancy. Eighteen- to 22-year-old women (N=152) were randomly assigned to one of three groups: (1) routine clinic care only; (2) routine clinic care, education, and contracting; or (3) routine clinic care, education, contracting, and client-selected reinforcers for fulfilling contracts. Subjects completed questionnaires on knowledge about family planning and reported their reproductive history, frequency of intercourse, contraception, contraceptive use, communication with sex partner about birth control, and demographics. Analyses of data revealed a statistically significant increase in knowledge about human fertility, reproduction, and contraception for both contracting groups but not for the control group. Consistency in use of contraceptives also increased significantly for both contracting groups but not for the control group. Subjects in the contracting-without-reinforcement group had higher attrition rates than subjects in the other groups. These findings suggest that family planning nurse-client contracting, a form of client-centered nursing care, can positively influence the family planning knowledge and behavior of sexually active young women. (NB)

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USE OF NURSE-CLIENT CONTRACTING TO REDUCE RISK OF UNINTENDED PREGNANCY IN AN ADOLESCENT POPULATION

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Use of Nurse-Client Contracting to Reduce Risk of Unintended Pregnancy in an Adolescent Population

The Problem

The problem of adolescent pregnancy is not a new one to community health nurses. In the United States, over 1.3 million teenagers become pregnant each year (Teenage pregnancy, 1981). It is estimated that 66% (858,000) or more of these pregnancies are unintended. Recent abortion statistics reveal that, of 1.3 million women of all ages who had abortions in 1981, approximately 63% were to women under twenty-five, and 30% to teenagers (U.S. DHHS 1983 Abortion Surveillance). We do not know how many Canadian youth experience unintended pregnancies, but in 1980, 31,273 teenagers gave birth. In Canada, the number of abortions each year is much smaller than in the United States, but young women comprise a proportion of the population of women having abortions that is very similar to the U.S. distribution. (Statistics Canada, 1981).

The problem of unintended pregnancy has far-reaching consequences in terms of the physical health, emotional and social growth and development of young people and their babies, as well as serious implications for their future education and economic status. As nurses, we are responsible for giving care which is designed to contribute to the overall health and growth of our clients, to assist them to prevent life situations which could have adverse consequences. In keeping with this responsibility, the investigator developed a strategy which was proposed to assist young people to reduce their risk of having an unintended pregnancy.

Reasons for Unintended Pregnancy

Unintended pregnancies occur among young people because they are sexually active and do not take sufficient precautions to prevent pregnancy. Much of the literature on adolescent pregnancy is focused on studies of demographics, personality, and psychological variables which are not readily amenable to change, and therefore are not likely targets for nursing intervention designed to reduce risk of pregnancy. This investigator began with an assumption that family planning behaviors are "learned" behaviors. In other words, we cannot expect people to engage in behaviors designed to prevent pregnancy until they have thought about pregnancy prevention, acquired information about pregnancy prevention and had experience practicing preventive behaviors.

From the literature, two major factors were identified as contributing to unintended pregnancy. These were (1) lack of knowledge and skill in family planning and (2) inconsistency in use of contraception. Lack of knowledge and skill involved the following:

- lack of knowledge about human fertility
  (White, 1984) (Presser, 1981) (Zelnik & Kantner, 1979)
- mistaken belief that they were too young to get pregnant
  (Zabin & Clark, 1981) (Zelnik & Kantner, 1979)
- lack of knowledge about contraceptives and how to use them
  (Zabin & Clark, 1981)
- lack of social support for use of contraception
  (White, 1984) (De Pietro, 1984) (Zabin & Clark, 1981)
- lack of knowledge about where and how to obtain contraceptives
  (Zelnik & Kantner, 1980)

Inconsistency in use of contraception is reflected in the following:

- 66% of sexually active young females never practice contraception or so so only "sometimes" (Zelnik & Kantner, 1980)
- prevalence of a risk-taking spirit in our society (Klein, 1984)
- many young people do not perceive themselves to be "at risk" (Klein., 1983)
- conflicting influences of the family and culture regarding whether or not it is alright or desirable to be "sexy", sexually active, use contraceptives.
- situational and interactional aspects of the sexual encounter (Hacker, 1977)

The investigator believed that nursing action aimed at reducing risk for unintended pregnancy had to take these factors into account and focus on client learning of behaviors which were likely to reduce risk.

Theoretical Framework

The theoretical framework for this study was taken from behavioral psychology. Thorndike's "Law of Effect" states that a behavior is likely to be learned if it is followed by a satisfying reward. Skinner stated that a desired behavior can be increased by providing positive reinforcement for that behavior. A contingency contract is a method of linking behaviors with reinforcers. Contingency contracts have been used to assist people to make changes in many different behaviors, including: psychotic behavior, cessation of smoking, reduction of body weight and control of chronic pain. In nursing, the major work on contingency contracting has been done by Steckel (1976, 1976,

1981). Recently, a number of nurses have advocated the use of contracting without providing a reinforcer to the client, but there is little agreement among authors concerning how this process should be used (Herje, 1980; Hayes & Davis, 1980; Brykczynski, 1982; Sloan & Schommer, 1982).

In the study reported here, contracting is a process whereby the client, in consultation with a nurse, chooses to perform a specific health-related behavior and makes a written agreement to do so. Contracting may be done either with or without providing a tangible reinforcer to the client for fulfilling the contract.

Purpose

The purpose of this study was to determine whether nurse-client contracting was useful in counseling single, sexually active youth regarding prevention of unintended pregnancy.

Design

The study design was a pretest-posttest field experiment having two experimental and one control/comparison group.

Procedure

One hundred and fifty-two sexually active eighteen to twenty-two year old female clients were randomly selected and randomly assigned to three groups at the student gynecology clinic of a large mid-western university. One group received routine clinic care and the second received routine clinic care, an educational component and contracting. The third group received routine clinic care, education and contracting, with client-selected reinforcers provided them

for fulfilling their contracts. The purpose of the educational component and contracting was to increase client knowledge about human fertility and contraception and to reduce client risk of having an unintended pregnancy.

After random assignment and initial assessment by means of a data collection instrument, subjects discussed their needs and/or problems with the contracting nurse. Following this, subjects in the contracting groups wrote their first contracts. Each client wrote two to three contracts and was seen in the clinic a total of three to four times, including visits for data collection and contracting. The only difference between subjects in the two experimental groups was that members of the "contracting with reinforcement" group received a tangible reinforcer when they demonstrated that they had fulfilled the contract made with the nurse at the previous visit.

Instrumentation

Data were collected from subjects using a questionnaire which was designed and pretested specifically for this study. A written quiz called the "Human Fertility, Reproduction and Contraception Questionnaire" was used to measure subjects' knowledge about family planning. Chronbach's alpha for this instrument was .78 for forty-six items. Test-retest reliability was .93. Other questions dealt with reproductive history, frequency of intercourse, contraceptive methods, consistency in use of contraception, communication with the sex partner about birth control and demographics.

Results

Analyses of the data revealed a statistically significant increase in knowledge about human fertility, reproduction and contraception for both

contracting groups (Exp.I - Wilcoxon Rank sum of + differences = 1213; p = .0000 sig.) (Exp.II - Wilcoxon rank sum of + differences = 1092; p = .0000 sig.) but not for the control group (Control - Wilcoxon rank sum of + differences = 552; p = .6970 n.s.). Please refer to Figure 1. At the time of the posttest, there was a significant difference in knowledge among the groups (Kruskal-Wallis H = 64.049; df = 2; p = .0000 sig.). This difference was between all subjects who received contracting and controls. There was no difference in knowledge between the two contracting groups (F = 2.4000; p = .1235).

Figure 2. shows that consistency in use of contraception also increased significantly for subjects in both contracting groups, (Exp.I - Wilcoxon rank sum of + differences = 21; p = .0313 sig.) (Exp.II - Wilcoxon rank sum of + differences = 57; p = .0117) but not for the control group (Control - Wilcoxon rank sum of + differences = 36; p = 1.000 n.s.). At the time of the posttest, control group subjects were more likely than contract subjects to be "less than 100% consistent" in their use of contraception during the previous month (Chi-square = 12.275; df = 2; p = .0022 sig.; Contingency coefficient =.29).

During the course of the study, it was noted that subjects from the "contracting without reinforcement" group seemed to be dropping out of the study in greater numbers than subjects in either of the other groups. The chi-square analysis shown in Table 1. reveals that there was a relationship between group assignment and attrition from the study (Chi-square = 8.453; df = 2; p <.02 sig.). Those in the contracting without reinforcement group were more likely to leave treatment after they had enrolled and before writing the minimum number of contracts required for the study.

FIGURE 1 Mean Knowledge Scores At Entry To and Exit From The Study

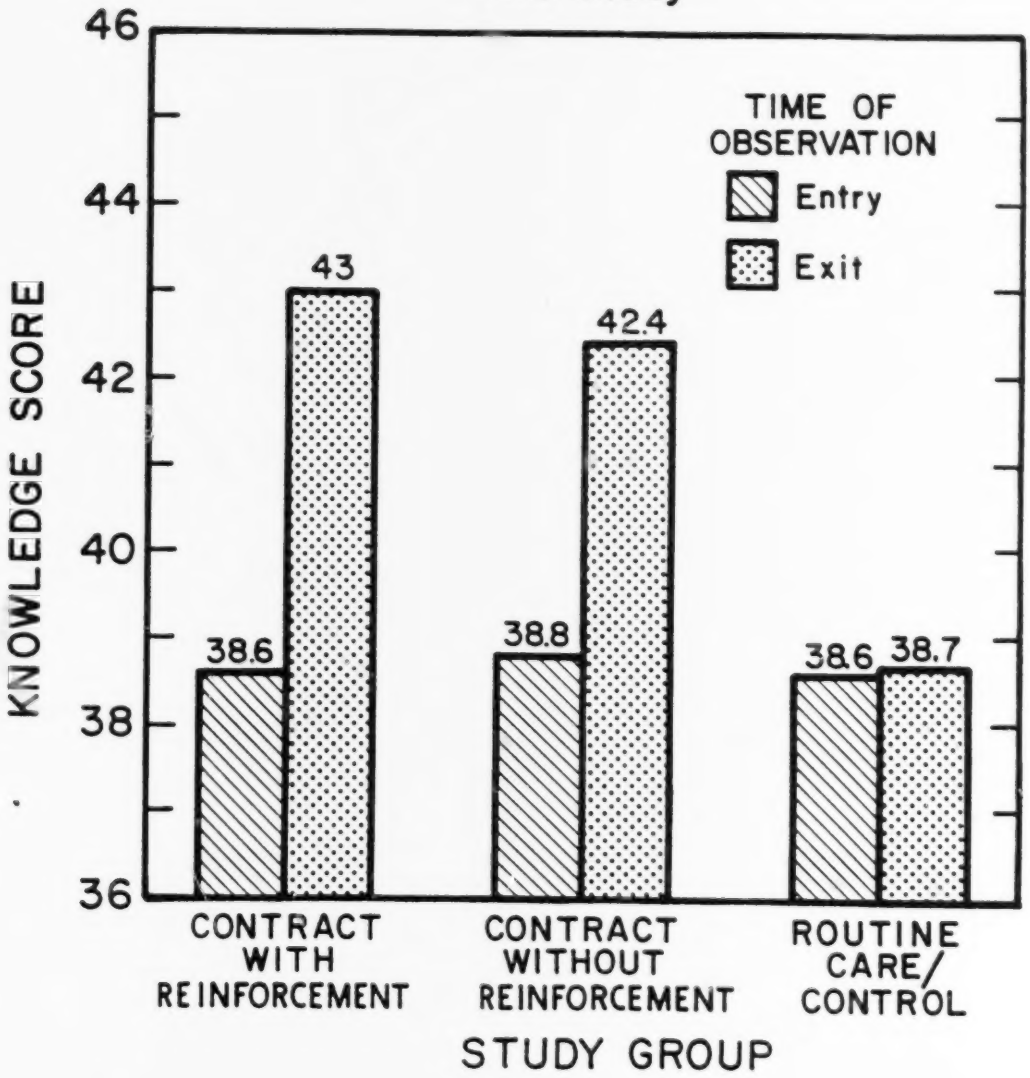

FIGURE 2 Contraceptive Consistency In the Past Month At Entry To and Exit From Study

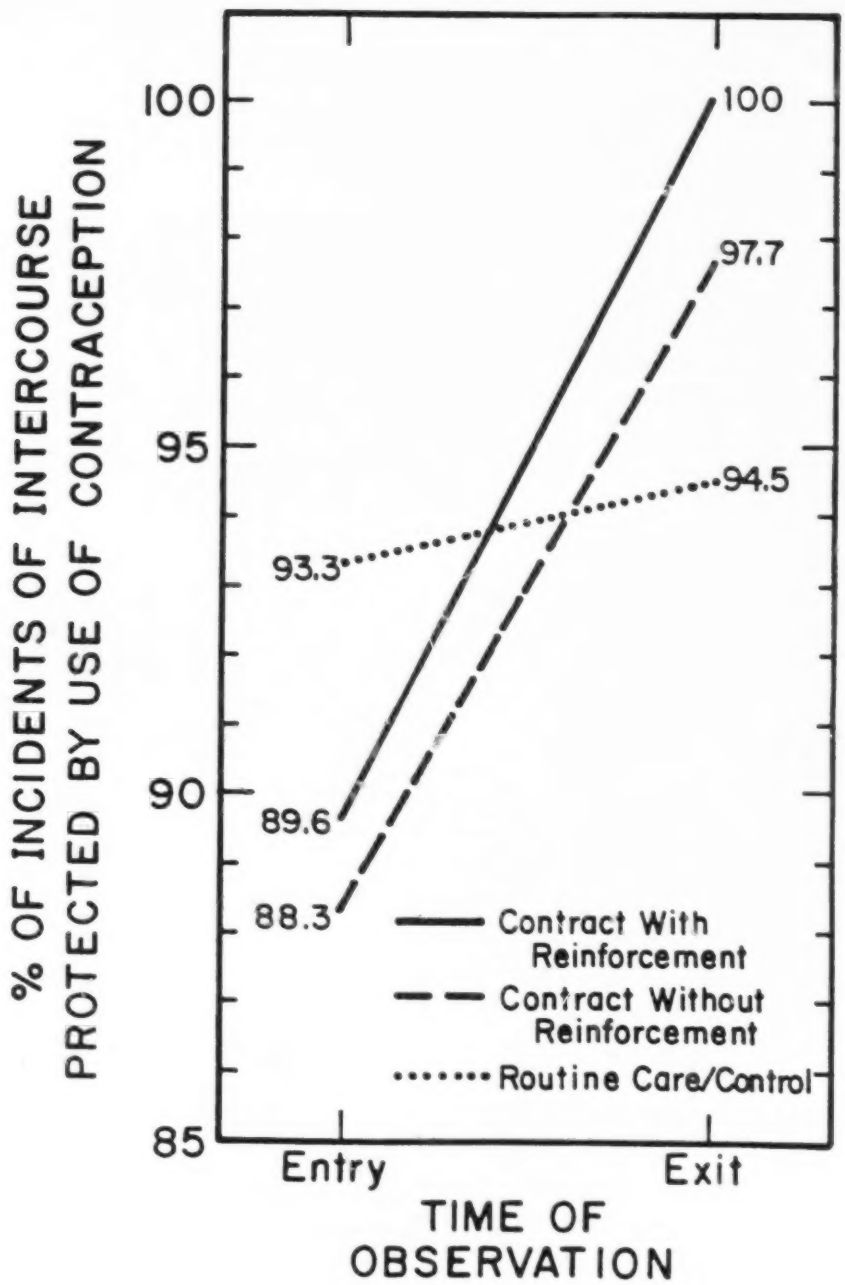

Table # 1.

Numbers of Subjects in Each Treatment Group Who Continued and Dropped Out After Admission to the Study

Experimental Group	Status		
	Continued	Dropped Out	
Contract With Reinforcement			
N	50	1	Tot=51
Expected	47	4	
Row %	98%	1.9%	
Col %	32.8%	7.1%	
Contract Without Reinforcement			
N	51	10	Tot=61
Expected	56	5	
Row %	83.6%	16.3%	
Col%	33.5%	71.4%	
Routine Clinic Care			
N	51	3	Tot=54
Expected	49	5	
Row %	94.4%	5.5%	
Col%	33.5%	21.4%	
	Tot = 152	Tot = 14	Tot=166

Chi-square = 8.453 df = 2 $p < .02$
There is a relationship between group assignment and attrition. Those who make contracts but receive no reinforcement for fulfilling them are more likely to leave treatment.
Contingency coefficient = .22

Conclusions

The data from this study reveal that family planning nurse-client contracting, a form of client-centered nursing care, can positively influence the family planning knowledge and behavior of young women who are sexually active. Both the clients who received tangible reinforcers for fulfilling their contracts and those who did not, achieved significantly higher scores on the knowledge quiz than the control group of clients who received routine clinic care. When compared with pretest values, subjects from both contracting groups showed significant increases in contraceptive consistency. The data on subject attrition suggest that, for the motivated client, contracting alone may be sufficient to produce a significant short-term effect in knowledge and behavior. However, if the client's motivation is not particularly high, and/or it is urgent that the client remain in treatment for a series of encounters with the nurse, it may be necessary to provide a tangible reinforcer to encourage contract fulfillment.

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